WHAT IS CLAIMED IS:

1. A thermal barrier coating system for use on a metallic component of a gas turbine engine comprising a thermal insulating ceramic layer formed by a dense vertically cracked vapor deposition process and consisting of about 1 to 6 weight% yttria, 0-1 weight% Hafnia, and the balance zirconia.

2. A thermal barrier coating system as recited in claim 1, further comprising a bond coating that adheres said thermal insulating layer to said metallic component of said gas turbine engine.

3. A thermal barrier coating system as recited in claim 1, wherein said bond coating is formed from an oxidation-resistant alloy of MCrAlY, where M is iron, cobalt, and/or nickel, or is formed from a diffusion aluminide or platinum aluminide.

4. A thermal barrier coating as recited in claim 1, wherein said metallic component of said gas turbine engine consists of a superalloy material.

5. A thermal barrier coating as recited in claim 1, wherein said thermal insulating ceramic coating is about 5-100 mils thick.

6. A thermal barrier coating as recited in claim 1, wherein said bond coating is formed from a material chosen from the group consisting of MCrAlY, diffusion aluminides and NiAl.

7. The thermal barrier coating system as recited in claim 1, wherein the yttria-stabilized zirconia is only partially stabilized.

8. A thermal barrier coating system comprising:

a metallic substrate component of a gas turbine engine;

a thermal insulating ceramic layer of yttria-stabilized zirconia having between 1 and 6 weight percent yttria and about 1 weight percent Hafnia, the thermal insulating layer being deposited by dense vertical cracking; and

a bond coating that adheres the thermal insulating layer to said substrate.